

41. The polypeptide, as claimed in claim 39, having a sequence of at least 80% identity with the sequence shown in SEQ ID NO:1 from amino acid 37 to 1114.
42. The polypeptide, as claimed in claim 39, having a sequence of at least 90% identity with the sequence shown in SEQ ID NO:1 from amino acid 37 to 1114.
43. A polypeptide, as claimed in claim 39, having protease activity.
44. A nucleic acid molecule comprising a sequence encoding a polypeptide having an amino acid sequence as set out in SEQ ID NO:1 from amino acid 37 to 1114, or a sequence having at least 50% identity thereto, or a functional fragment thereof.
45. A nucleic acid molecule comprising a sequence as set out in SEQ ID NO:2 or a sequence having at least 60% identity thereto, or a sequence which hybridises thereto under stringent conditions.
46. The nucleic acid molecule, as claimed in claim 45, comprising a sequence having at least 70% identity with the sequence shown in SEQ ID NO:2.
47. The nucleic acid molecule, as claimed in claim 45, comprising a sequence having at least 80% identity with the sequence shown in SEQ ID NO:2.
48. The nucleic acid molecule, as claimed in claim 45, comprising a sequence having at least 90% identity with the sequence shown in SEQ ID NO:2.
49. A composition for use in raising an immune response in an animal comprising a polypeptide having an amino acid sequence as set out in SEQ ID NO:1 from amino acid 37 to 1114, or a sequence having at least 50% identity thereto, or a functional fragment thereof and optionally a carrier and/or adjuvant.
50. A composition for use in raising an immune response in an animal, comprising a nucleic acid sequence encoding a polypeptide having an amino acid sequence as set out in SEQ ID NO:1 from amino acid 37 to 1114, or a sequence having at least

50% identity thereto, or a functional fragment thereof and optionally a carrier and/or adjuvant.

51. A polypeptide having an amino acid sequence as set out in SEQ ID NO:3 from amino acid 26 to 616, or a sequence having at least 50% identity thereto, or a functional fragment thereof.
52. The polypeptide, as claimed in claim 51, having a sequence of at least 70% identity with the sequence shown in SEQ ID NO:3 from amino acid 26 to 616.
53. The polypeptide, as claimed in claim 51, having a sequence of at least 80% identity with the sequence shown in SEQ ID NO:3 from amino acid 26 to 616.
54. The polypeptide, as claimed in claim 51, having a sequence of at least 90% identity with the sequence shown in SEQ ID NO:3 from amino acid 26 to 616.
55. The polypeptide, as claimed in claim 51, having lipase activity.
56. A nucleic acid molecule comprising a sequence encoding a polypeptide having an amino acid sequence as set out in SEQ ID NO:3 from amino acid 26 to 616, or a sequence having at least 50% identity thereto, or a functional fragment thereof.
57. A nucleic acid molecule comprising a sequence as set out in SEQ ID NO:4 or a sequence having at least 60% identity thereto, or a sequence which hybridises thereto under stringent conditions.
58. The nucleic acid molecule, as claimed in claim 57, comprising a sequence having at least 70% identity with the sequence shown in SEQ ID NO:4.
59. The nucleic acid molecule, as claimed in claim 57, comprising a sequence having at least 80% identity with the sequence shown in SEQ ID NO:4.
60. The nucleic acid molecule, as claimed in claim 57, comprising a sequence having at least 90% identity with the sequence shown in SEQ ID NO:4.

61. A composition for use in raising an immune response in an animal, the composition comprising a polypeptide having an amino acid sequence as set out in SEQ ID NO:3 from amino acid 26 to 616, or a sequence having at least 50% identity thereto, or a functional fragment thereof and optionally a carrier and/or adjuvant.
62. A composition for use in raising an immune response in an animal, the composition comprising a nucleic acid sequence encoding a polypeptide having an amino acid sequence as set out in SEQ ID NO:3 from amino acid 26 to 616, or a sequence having at least 50% identity thereto, or a functional fragment thereof and optionally a carrier and/or adjuvant.
63. A polypeptide having an amino acid sequence as set out in SEQ ID NO:5, or a sequence having at least 60% identity thereto, or a functional fragment thereof.
64. The polypeptide, as claimed in claim 63, having a sequence of at least 70% identity with the sequence shown in SEQ ID NO:5.
65. The polypeptide, as claimed in claim 63, having a sequence of at least 90% identity with the sequence shown in SEQ ID NO:5.
66. The polypeptide, as claimed in claim 63, having haemolysin activity.
67. A nucleic acid molecule comprising a sequence encoding a polypeptide having an amino acid sequence as set out in SEQ ID NO:5, or a sequence having at least 60% identity thereto, or a functional fragment thereof.
68. A nucleic acid molecule comprising a sequence as set out in SEQ ID NO:6 or a sequence having at least 60% identity thereto, or a sequence which hybridises thereto under stringent conditions.
69. The nucleic acid molecule, as claimed in claim 68, comprising a sequence having at least 70% identity with the sequence shown in SEQ ID NO:6.

70. The nucleic acid molecule, as claimed in claim 68, comprising a sequence having at least 80% identity with the sequence shown in SEQ ID NO:6.
71. The nucleic acid molecule, as claimed in claim 68, comprising a sequence having at least 90% identity with the sequence shown in SEQ ID NO:6.
72. A composition for use in raising an immune response in an animal, the composition comprising a polypeptide having an amino acid sequence as set out in SEQ ID NO:5, or a sequence having at least 60% identity thereto, or a functional fragment thereof and optionally a carrier and/or adjuvant.
73. A composition for use in raising an immune response in an animal, the composition comprising a nucleic acid sequence encoding a polypeptide having an amino acid sequence as set out in SEQ ID NO:5, or a sequence having at least 60% identity thereto, or a functional fragment thereof and optionally a carrier and/or adjuvant.
74. A composition for use in raising an immune response in an animal directed against *Moraxella*, the composition comprising at least one polypeptide selected from the group consisting of polypeptide as given in SEQ ID NO:1 from amino acid 37 to 1114, SEQ ID NO:3 from amino acid 26 to 616, and SEQ ID NO:5.
75. The composition of claim 74 wherein said peptide having at least 50% identity to the peptide selected from the group consisting of a peptide as given in SEQ ID NO:1 from amino acid 37 to 1114, SEQ ID NO:3 from amino acid 26 to 616, and SEQ ID NO:5.
76. The composition, as claimed in claim 74, the composition comprising a polypeptide having at least 60% identity to the amino acid sequence as given in SEQ ID NO:5 or a functional fragment thereof, and either one of, or preferably both of, a polypeptide having at least 50% identity to the amino acid sequence as given in SEQ ID NO:1 or a functional fragment thereof and a polypeptide having at least 50% identity to the amino acid sequence as given in SEQ ID NO:3 or a functional fragment thereof.

77. The composition, as claimed in claim 74, wherein the *Moraxella* is *M. bovis* or *M. catarrhalis*.
78. The composition, as claimed in claim 75, wherein the *Moraxella* is *M. bovis* or *M. catarrhalis*.
79. The composition, as claimed in claim 76, wherein the *Moraxella* is *M. bovis* or *M. catarrhalis*.
80. The composition, as claimed in claim 74, wherein the *Moraxella* is *M. bovis*.
81. The composition, as claimed in claim 75, wherein the *Moraxella* is *M. bovis*.
82. The composition, as claimed in claim 76, wherein the *Moraxella* is *M. bovis*.
83. An antibody raised against a polypeptide selected from the group consisting of a polypeptide as given in SEQ ID NO:1 from amino acid 37 to 1114 or a functional fragment thereof, SEQ ID NO:3 from amino acid 26 to 616 or a functional fragment thereof, and SEQ ID NO:5 or a functional fragment thereof.
84. The antibody of claim 83 wherein said polypeptide has at least 50% identity to the polypeptide as given in SEQ ID NO:1 from amino acid 37 to 1114 or a functional fragment thereof, SEQ ID NO:3 from amino acid 26 to 616 or a functional fragment thereof, and SEQ ID NO:5 or a functional fragment thereof.
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